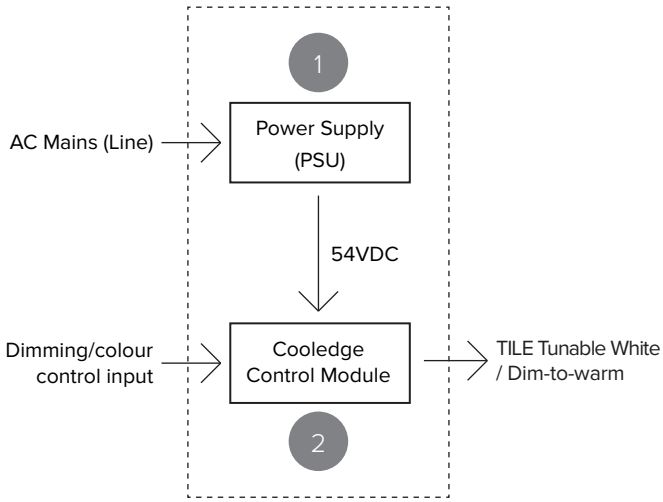
COOLEDGE™

COOLEDGE TUNABLE WHITE / DIM-TO-WARM POWER & CONTROL (54V) SPECIFICATIONS

PROJECT		REFERENCE TYPE	
SPECIFIED BY		QUANTITY	
DATE		NOTE	For Luminous Surfaces

SYSTEM OVERVIEW



Control on the scale of nature enables large luminous surfaces using industry standard protocols.

1	Power Supply: converts AC mains (line) power to safe low voltage 54V power
2	Cooledge Control Module: receives control input signals to dim and/or tune Cooledge Lighting Systems. Output is max. 90W per channel

CERTIFICATIONS

c UL us LISTED

RoHS

CE

UK CA

GENERAL

Operating Temp.	-20 to 55°C (-4 to 131°F)
Storage Temp.	-40 to 70°C (-40 to 158°F)
Relative Humidity	90% max (non-condensing)
Operating Voltage	Nominal 54VDC

WARRANTY

5 YEAR SYSTEM WARRANTY 5 5 YEAR SYSTEM WARRANTY

5 Year Limited Warranty:
Parts and workmanship.

FEATURES

- Compatible with a full range of industry standard control protocols from simple analog (0/1-10V), to digital (DALI/DMX), and wireless (Casambi) options
- Up to two 90W channels of power enables larger luminous surfaces while reducing the number of line voltage connections required
- Simple and economic control for dynamic illumination that includes deep dimming and tunable CCT
- Test mode available for on-site troubleshooting

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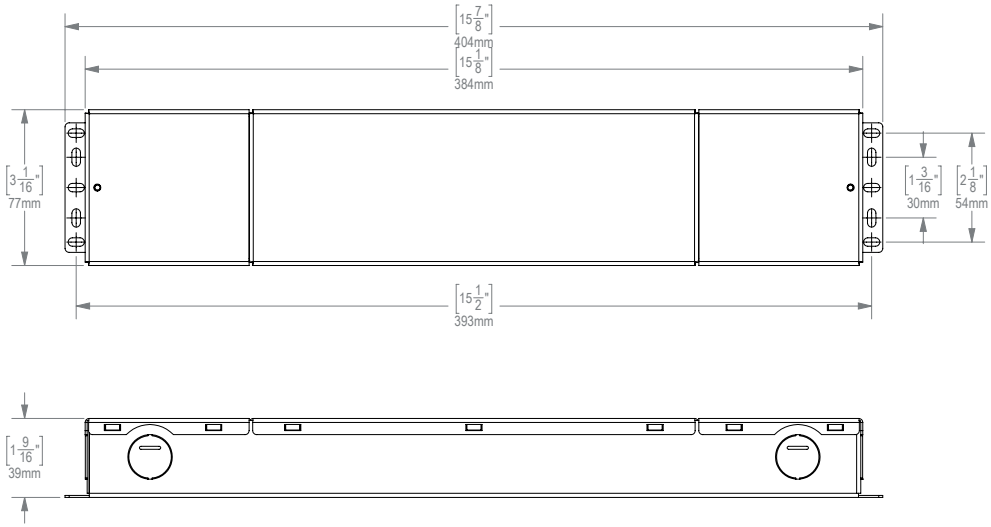
1 POWER SUPPLIES AND LED DRIVERS = 1

Purpose: Converts AC mains (line) power to nominal 54VDC power.



SPECIFICATIONS

	92W Power Supply	200W Power Supply
Dimensions	15.9” x 3.0” x 1.5” / 404mm x 77mm x 39mm	15.9” x 3.0” x 1.5” / 404mm x 77mm x 39mm
Maximum Output Power (W)	92	200
Output Voltage (VDC)	54	54
Input Voltage Range (VAC)	Nom. 100-277	Nom. 100-277
Efficiency (% at full load – typ.) (@120VAC/277VAC)	86/89	86/89
Power Factor (full load)	>0.90	>0.90
Total Harmonic Distortion (%)	< 20	< 20
Start-up Time (sec)	< 2.0	< 2.0
Max. Inrush Current	60A (per NEMA 410)	60A (per NEMA 410)
Certification	UL Listed & CE Compliant	UL Listed & CE Compliant
Rated Lifetime (hr) Tc <75°C	50,000	50,000
Weight	2.6 lb / 1200g	2.6 lb / 1200g

HOW TO ORDER

Output Power	Ordering Code	Description
92W	EPSS-092-54V-UL/CE*	92W Power Supply; 54V with integrated junction box
200W	EPSS-200-54V-UL/CE*	200W Power Supply; 54V with integrated junction box

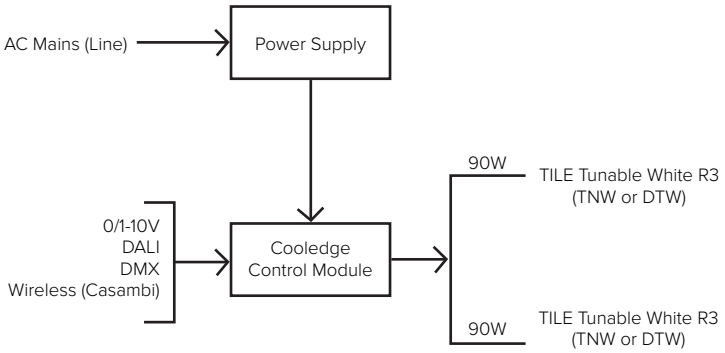
*select UL for the UL Listed version and CE for the CE Compliant version

2 COOLEDGE CONTROL MODULE: GENERAL = 2

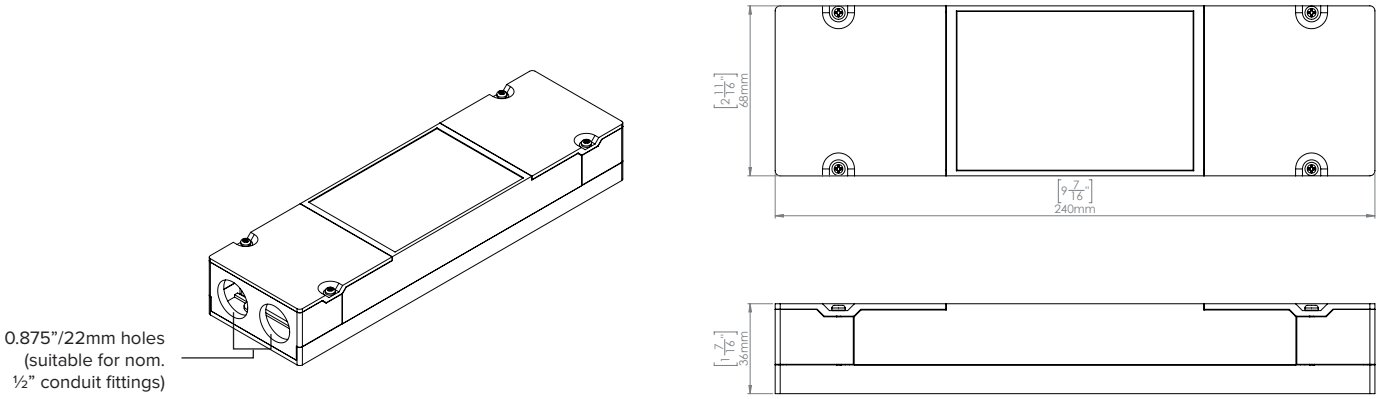
Purpose: Cooledge Control Modules perform two functions: 1) convert a single incoming DC power source to multiple Class 2 output (90W) channels; and 2) convert incoming control signals to dimming and CCT tuning output to operate Cooledge TILE Tunable White.

There are 2 types of Control Modules depending upon the TILE product to be controlled:

- **TNW** = Tunable White > TNW Control Modules are used to select CCT and dim TILE Tunable White.
- **DTW** = Dim-to-Warm > DTW Control Modules are used to select a CCT + Dim combination when used with the dim-to-warm TILE Tunable White product.



Tunable White (TNW) & Dim-to-Warm (DTW)



SPECIFICATIONS

Dimensions	9.4" x 2.7" x 1.4" / 240mm x 68mm x 36mm
Output Power (W per channel)	90 (Class 2); TNW/DTW = 2 CH
Input Power (W)	Up to 400 (Class 1)
Circuit Protection	Overcurrent, Overvoltage, Short Circuit, Reverse Polarity
Dimming Frequency (Hz)	3950
Dimming Range (%)	0.1 - 100 (DTW); 1 - 100 (TNW)
Standalone Test Mode	Available
Maximum Control Current (Source)	0.5 mA
Max. Wire Size	12 AWG/4.0mm²
Rated Lifetime (hr)	70,000
EMI	FCC Part 15, Class B (UL Listed)/CE Compliant
Location	Indoor; Dry locations. Outdoor use requires suitable enclosure*
Weight	0.5lbs/227g

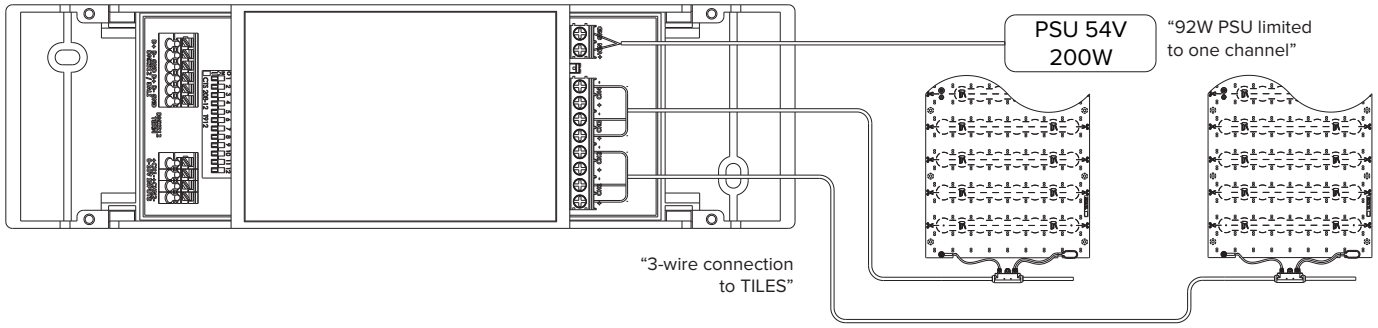
*For exterior applications, Cooledge Control Modules must be mounted within an appropriate IP65 or higher enclosure is minimum 15.6" (397mm) L x 6.5" (166mm) W X 3.6" (92mm) H.

3 COOLEDGE CONTROL MODULES: DALI AND 0-10V

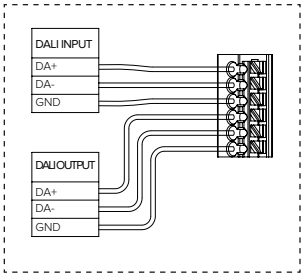
Control Modules identified as “DALI” have dual protocol capability:

1. if the DALI input is used the module will operate based on incoming DALI control signals and each output channel can be controlled independently.
2. if 0-10V input is used, the module will operate based on incoming 0-10V signals and all output channels will be controlled by this input.

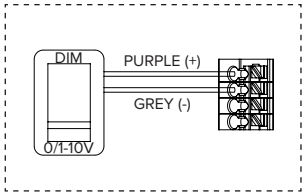
NOTE: DALI takes precedence - if DALI connected, unit will ignore 0-10V signals



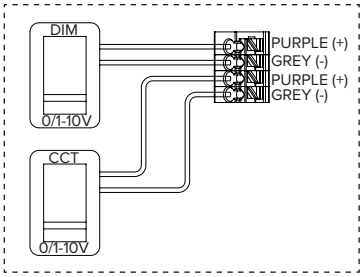
Option 1: DALI



Option 2: 0-10V DTW



Option 3: 0-10V TNW



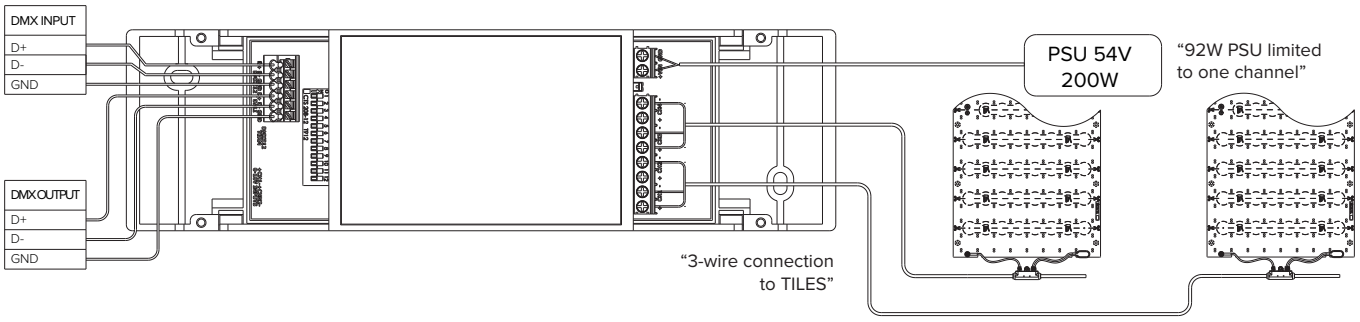
HOW TO ORDER

Input Control Protocol	Ordering Code	Description
0-10V, DALI-TNW	CTR-TNW-DAL/010-48/58V	180W (max.) Control Module for Tunable White, 54V, Dual Channel x 2(@90W), DALI and 0-10V, CE and UL
0-10V, DALI-DTW	CTR-DTW-DAL/010-48/58V	180W (max.) Control Module for Dim to Warm, 54V, Dual Channel x2(@90W), DALI and 0-10V, CE and UL

NOTES:
DALI polarity free, opto-isolated interface
DALI 1 + DALI 2 compatible:
IEC 62386-101:2014 (Digital Addressable Lighting Interface – Part 101: General Requirements – System Components)
IEC 62386-102:2014 (Digital Addressable Lighting Interface – Part 102: General Requirements – Control Gear
IEC 62386 – 207:2009 (Digital Addressable Lighting Interface – Part 207: Particular Requirements for Control Gear – LED Modules (Device Type 6)
IEC 62386 – 209 (Digital Addressable Lighting Interface – Part 209: Particular Requirements for Control Gear – Control Gear (Device Type 8)

4 COOLEDGE CONTROL MODULES: DMX

Control Modules identified as “DMX” operate on control signals received from a DMX controller (8 or 16 bit) and each output channel can be controlled independently for dimming and color tuning.



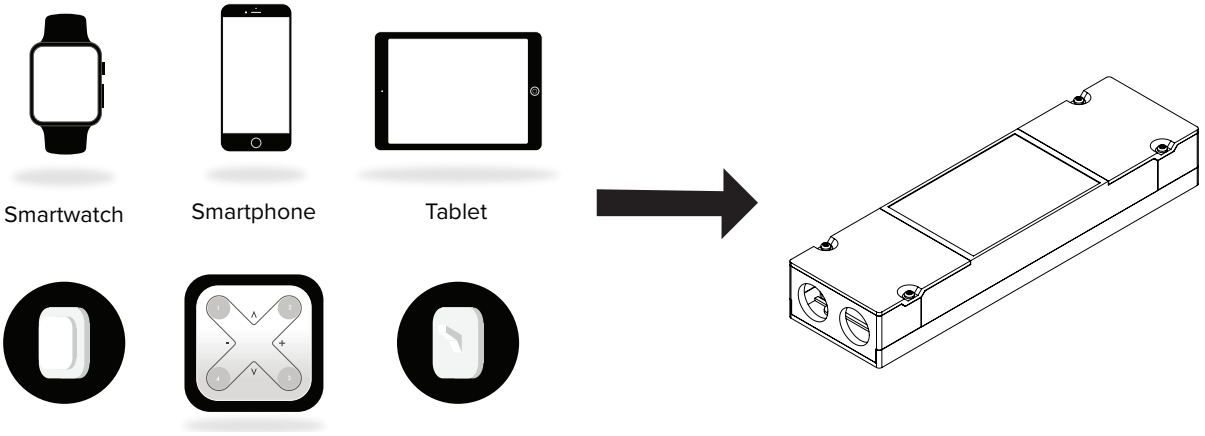
When installing the final controller (termination point) in a network use the provided jumper on the indicated header.

HOW TO ORDER

Input Control Protocol	Ordering Code	Description
DMX-TNW	CTR-TNW-DMX-48/58V	180W (max.) Control Module for Tunable White, 54V, Dual Channel x 2(@90W), DMX, CE and UL
DMX-DTW	CTR-DTW-DMX-48/58V	180W (max.) Control Module for Dim to Warm, 54V, Dual Channel x2(@90W), DMX CE and UL

5 COOLEDGE CONTROL MODULES: WIRELESS (CASAMBI)

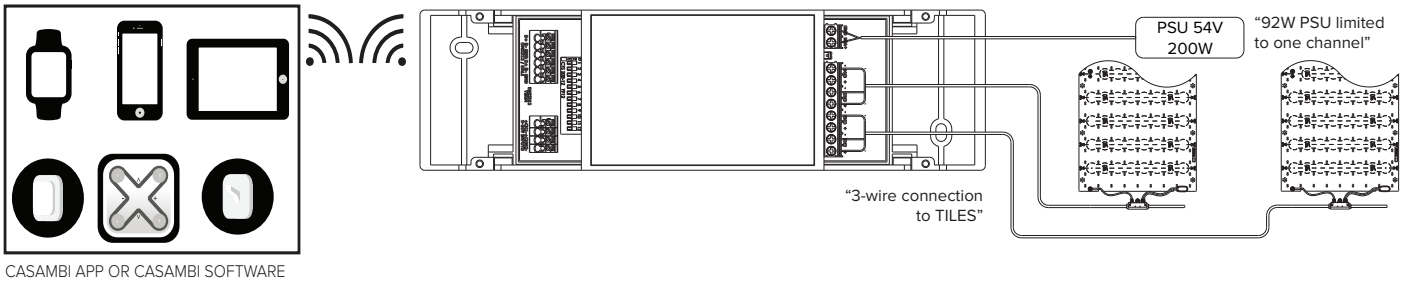
Control Modules identified as “CAS” operate on control signals received from a Casambi (Bluetooth Low Energy wireless protocol) enabled device including a wireless switch, smartphone or tablet.



Casambi Enabled Device

Images Courtesy of Casambi

Cooledge “CAS” Control Module



HOW TO ORDER

Input Control Protocol	Ordering Code	Description
Casambi Wireless - TNW	CTR-TNW-CAS-48/58V	180W (max.) Control Module for Tunable White, 54V, Dual Channel x 2(@90W), Casambi, CE and UL
Casambi Wireless - DTW	CTR-DTW-CAS-48/58V	180W (max.) Control Module for Dim to Warm, 54V, Dual Channel x 2(@90W), Casambi, CE and UL

Wireless range may be affected by mounting method, location and weather conditions. Cooledge recommends evaluation of wireless functionality by application.